

# Liquid Deletion in Korean\*

## Another Look

Jeong—Ryeol Kim\*

### 〈CONTENTS〉

- I. Introduction
- II. Survey of current studies on the issue
  - A. Liquid deletion in predicates
  - B. Liquid deletion in another position
- III. Arguments for expanding the phonological solution
  - A. Data
  - B. Hypotheses
  - C. Assumptions
  - D. Explanation under the two different hypotheses
  - E. Comparison
- IV. Conclusion and remaining problems

## I. Introduction

There is a phonological phenomenon called liquid deletion in Korean. Liquid deletion is traditionally treated as unpredictable and irregular but since C. W. Kim (1971), Korean linguists generally accept regularity among some irregular predicates. However, liquid deletion in the compounding words has been left as idiosyncratic (W. Heo 1982 : 266, B.G. Lee 1981:16).

This paper argues that the idiosyncrasy can be resolved by expanding the scope of liquid deletion in predicates.

---

\* 한국해양대학교 교수 (언어학 전공)

## II. Survey of current studies on the issue

### A. Liquid deletion in predicates

The following so-called irregular predicates show the effects of liquid deletion in their inflectional paradigms.

(1)

a. /ur-ni/ 'cry-interrogative' 1  
[u : ni]

/ur-nun/ 'cry-present tense'  
[u : nin]

b. /ur-in/ 'cry-past tense'  
[u : in] (~[urin])

/ur-ir/ 'cry-future tense'  
[u : l]

/ur-isita/ 'cry-honorifier'  
[u : sida]

c. /ur-ipnita/ 'cry-polite form'  
[ummida]

The example in (1c) is commonly explained by the consonant cluster simplification rule which is independently motivated for treating double consonants in the syllable-final position in Korean. This rule can be informally stated in such a way that a coronal consonant has to be deleted in the competition with a non-coronal consonant in the syllable formation (C)(G)V(C) in Korean, everything being equal.<sup>2</sup>

The examples in (1a) are treated in such a way that /r/ is deleted when it is followed by a homorganic nasal (see for further reference C.W. Kim 1971 : 9, B.G. Lee 1981 : homorganic dissimilation, S.C. Ahn 1985 : 153).

In the treatment of (1b) C.W. Kim (1971 : 12) states that we need morphological



liquid deletion in the same position :

(5)

Arden /a : 'dn/  
 arding /a : 'ding/  
 arduous /'a : dyues/  
 arnica /'a : nike/  
 arsenal /'a : sin/  
 arsenic /'a : snik/  
 artesian /a : 'ti : zyen/  
 arthritic /a : 'thritik/  
 article /'a : tikl/  
 articulate /a : 'tikyulit/

Let's move on to the next section, keeping this natural class in mind which crucially conditions liquid deletion.

### B. Liquid deletion in another position

Korean has liquid deletion in another environment other than predicates, for example, consider the following contrast :

(6)

- a. /s'ar-caru/ 'rice bag'  
 [s'alc'aru]
- b. /s'ar-cen/ 'rice market'  
 [s'ajen]

Liquid deletion in (6) has been usually regarded as idiosyncratic, irregular and unpredictable, however, H.S. Lee (1976 : 246-8) suggests the possibility that liquid deletion can be treated as a regular phonological rule similar to homorganic lapsing in compound words.<sup>5</sup>

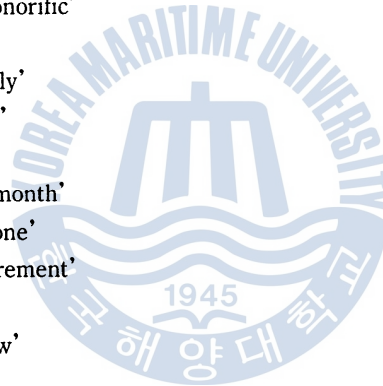
### III. Arguments for expanding the phonological solution

## A. Data

The additional data which undergo liquid deletion like (6b) are given in (7) taken from H.S. Lee (1972).

(7)

kau-nay 'autumn-during'  
 ci-ciri 'badly'  
 ca-calmot 'right, wrong'  
 ki-tarahta 'long-inchoate'  
 panu-cil 'sewing work'  
 'tta-nim 'daughter-honorific'  
 so-namwu 'pine tree'  
 pwu-napi 'fire-butterfly'  
 ye-taci 'pushing door'  
 mi-taci 'sliding door'  
 ta-tari 'month after month'  
 cha-tol 'a kind of stone'  
 ma-toy 'cubic measurement'  
 hwa-sal 'arrow'  
 ma-so 'horse and cow'  
 pwu-son 'fire shovel'  
 cha-co 'a kind of millet'



The additional data following example (6a) listed in (8) are taken from H.S. Lee (1972) :

(8)

kal-sayk 'brown color'  
 kal-swu 'water famine'  
 kal-sin 'hunger spirit'  
 kal-tay 'reed' al-tung 'trouble'  
 kel-tay 'rack' el-cak 'masterpiece'  
 kyel-cay 'permission'  
 kyel-sok 'bonds'

kyel-san 'tally'  
 kol-tong-phwum 'antique'  
 kol-ca 'key word'  
 kil-cimsung 'crawling animal'  
 tal-cak 'about a month'  
 tol-taykari 'stone head'  
 tol-cin 'dash'  
 tul-so 'buffalo'  
 tul-son 'handle'  
 tul-cwi 'wild rats'  
 mal-tay 'cotton roller'  
 mal-sori 'speech sounds'  
 mal-swul 'keg'  
 mwul-ka 'edge of water'  
 mul-kam 'water color'  
 mwul-sal 'flow of water'  
 mwul-ceng 'state of things'  
 mwul-cip 'blisters'  
 mil-tam 'private conversation'  
 il-swu 'smuggling'  
 pal-tal 'development'  
 pal-tung 'top of the foot'  
 pal-sel 'disclosing'  
 pal-sin 'dispatch of message'  
 pal-cak 'paroxysm'  
 pal-cok 'beginning'  
 pel-cip 'beehive'  
 pyel-ceng-cik 'temporary status'  
 pwul-sasin 'immortal body'  
 pwul-kil 'blaze'  
 pal-sayng 'killing animals'  
 s'al-cip 'rice store'  
 sol-cik 'honesty'  
 swul-kwun 'drunkard'  
 swul-sang 'drinking table'  
 swul-can 'wine cup'

al-sok 'substance of secret'  
 yel-tay 'tropical area'  
 yel-sey 'inferior situation'  
 yel-cen 'a fast fight'  
 yul-tong 'rythm'  
 il-tan 'for a moment'  
 il-si 'day and time'  
 cel-tay 'absolutely'  
 cel-say 'matchless'  
 cel-ceng 'peak'  
 col-cangpwu 'chicken hearted'  
 khal-nal 'blade'  
 chal-na 'for a short moment'  
 pwul-nori 'fire play'  
 kil-neme 'over the road'

The following general observations can be made by the contrast between (7) and (8) :

The first of all is that the group of words which undergoes liquid deletion is NOT subject to the tensification.

The second is that the group of words undergoing liquid deletion is NOT subject to lateral assimilation.

The third is that liquid deletion happens when a liquid is followed by a word internal boundary and a plain coronal sound.

The last point is that the syllable which loses a liquid is often long.

## B. Hypotheses

Two alternative hypotheses can be proposed based on the discussion in the previous section.

### 1) Idiosyncratic marking hypothesis

One solution for the data (6b) and (7) is to mark every lexical item undergoing liquid deletion idiosyncratically. See W. Heo (1982 : 266, 1983 : 120) and B.G. Lee (1981 : 245-6).

## 2) Phonological hypothesis

The other solution for the same data is to use the liquid deletion rule for these predicates as well since the conditioning factor appear to be the same as those in predicates in the position where a liquid is followed by one of the plain coronal consonants.

## C. Assumptions

The following set of assumptions needs to be made by either hypothesis to explain the data in (7) and (8) :

1) An epenthetic consonant /t/ is required to explain the tensification in (8) and /t/-insertion is hard to determine based on phonological conditioning alone. Following K.H. Lee (1982 : 299-321), I'll assume a group of words which are idiosyncratically marked [+ t-epen] as undergoing the /t/-epenthesis rule.

2) There is the tensification rule which is applied to a morpheme beginning with an obstruent preceded by a morpheme boundary and another obstruent.

3) Consonant cluster simplification is also necessary to rule out the inadmissible consonant clusters.

4) A phoneme /r/ becomes lateralized into /l/ when it is followed by either a consonant or a word boundary.

5) A nasal /n/ assimilates to an adjacent homorganic lateral.

6) The rule ordering must be in the following way :

The /t/ epenthesis rule precedes the tensification rule (feeding).

The tensification rule precedes consonant cluster simplification precedes the



liquid deletion (bleeding).

The liquid deletion rule precedes lateralization (bleeding).

Lateralization rule precedes the lateral assimilation rule (feeding).

#### D. Explanation under the two different hypotheses

##### 1) Idiosyncratic marking hypothesis

The data can be treated with the expense of listing each lexical item which undergoes liquid deletion, that is, a word with [+ liquid deletion] triggers liquid deletion in the preceding word. See the following derivation of (6) :

(9)

	a. s'ar-caru [+ t-epen]	b. s'ar-cen [+ r-del]
t-epen	s'ar-t-caru	_____
tensification	s'ar-t-c'aru	_____
con.clus.sim.	s'ar-c'aru	_____
liquid del.	_____	_____
voicing	_____	s'a : -jen
lateralization	s'al-c'aru	_____
	_____	_____
output	s'al-c'aru	s'a : -jen

##### 2) Phonological hypothesis

A liquid which is followed by a morpheme boundary and one of the plain coronal consonant undergoes the liquid deletion rule.

(10)

	a. s'ar-caru [+ t-epen]	b. s'ar-cen
t-epen	s'ar-t-caru	_____
tensification	s'ar-t-c'aru	_____
con.clus.sim.	s'ar-c'aru	_____
liquid del.	_____	s'a : -cen
voicing	_____	s'a : -jen
lateralization	s'al-c'aru	_____
	_____	_____

output

s' al-c' aru

s' a : -jen

### E. Comparison

The second hypothesis is better than the first one since it has the same amount of explanatory power with a more restrictive set of devices.

In addition, the second hypothesis affords an explanation for the observations the paper discussed in the previous sections. They are : Why are the group of words which undergo liquid deletion NOT subject to tensification ? In other words, why are the features [t-epe] and [r-del] complementary ?

The answer for this is self-evident in the second hypothesis, that is, the environment never exists for the tensification.

Another question is that why does liquid deletion happen exclusively when it is followed by a plain coronal consonant ?

This is because they constitute a natural class which conditions the homorganic lapsing.

## IV. Conclusion and remaining problems

The paper discussed the possibility of solving liquid deletion in compound words without invoking any extra devices. In addition to this, the discussion about liquid deletion shows the possibility of simplifying liquid deletion rule (4) in such a way that the morphological condition v/a can be erased.

There usually tends to be some linguistically meaningful generalization hidden when people label a phenomenon as idiosyncratic.

However, the solution proposed here is not satisfactory yet, since it cannot answer why *pyel-nim* 'star-honorifier' and *emwul-cen* 'fish market' do not undergo liquid deletion. A possible solution has been proposed with still remaining problems by C.W. Kim (in a class discussion).

He attempts to resolve the problem by using a combination plate which is made up of lexical marking for the words which undergo liquid deletion, phonological environment and sub-/co-compounding notion originally proposed by Mohanan (1982 : 39-40).<sup>7</sup>

Keeping Mohanan's distinction in Note 7 in mind, it can be applied to Korean data, that is, sub-compounds are in level %n with liquid deletion as one of the phonological rules in the level and co-compounds are in level %n%1 following liquid deletion. In other words, co-compounds do not undergo liquid deletion. In data (7) we can see that this is overgeneralized since mitati 'sliding door', yetati 'door', maso 'hoarse and cow', matoy 'cubic measurement' and cacalmot 'right or wrong' etc. still undergo liquid deletion.

Someone may think of taking advantage of 'looping' between sub-compounds and co-compounds in Mohanan (ibid. 65). Those words lexically marked for [+r-del] go back to level #n and are subject to the deletion rule. Up until this point, it appears to be fine. However, there are words which are marked as [+r-del] and must be sub-compounds, but they do not undergo the deletion rule, for example, words like s'alcaru 'rice bag', pwulcangnan 'fire play', miltay 'mop' and khalnal 'blade'.

Both the above proposed solution and the solution outlined in the present paper unavoidably run into exceptional cases which inspire and challenge linguists even more.

## Notes

\* This paper is a slightly revised version of earlier term paper submitted to Prof. Chin-wu Kim's Korean phonology class back in Fall, 1986. I appreciate his kind encouragement and valuable comments on the paper. Any remaining errors, of course, are mine.

1. I posit the underlying representation for liquid is /r/ instead of /l/ in this paper for the following reasons :

First, an underlying representation is traditionally the segment preceding a vowel.

Second, /r/ is more likely to be deleted before a homorganic sound than /l/ cross-linguistically.

2. The syllable formation rule in Korean is that

- 1) V-element is prelinked to \$'s.
- 2) C-element to the left are adjoined one by one as long as the second C is [-cons, -voc, +hi].
- 3) Subsequently, let a C to the right, if there is one, be anchored to \$ (Y.S. Kim 1984 : 348).

The problematic case which has more than one C in the coda position is borne out by 'the consonant cluster reduction (ibid (6)).

3. In addition to the data in (1) and (3) there is another case of liquid deletion in the stem-final position.

/ur-o/ 'cry-neutral form'  
[u : o]

I put this case aside in this paper since this is not crucially related to what the paper is primarily concerned with.

4. The difference of optionality between /n,s/ and /t,c/ seems to have something to do with the historical change of point of articulation in Korean. I cannot be sure of how it happened nor how it relates to the present state of Korean.
5. The homorganic lapsing, what he/I mean here, is that a consonant becomes lost when it is followed by a homorganic consonant. In Korean the lapsed consonant is likely to be a liquid and the conditioning consonant is also typically plain, neither aspirated nor tensed.
6. The data (7) and (8) are not exhaustive in any sense. For more comprehensive

data for (8) in compound nouns, refer to K.H. Lee (1982 : 303-4).

7. Mohanan (1982 : (66)) says the structural difference between sub-compounds and co-compounds is as follows :

(66)

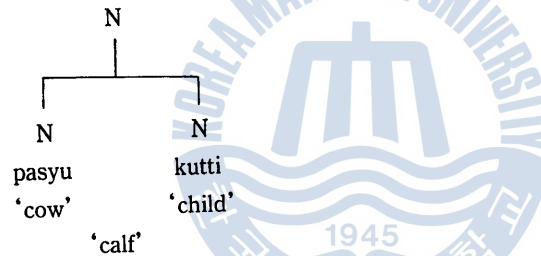
a.  $N \rightarrow N N$  (sub-compounds).

b.  $N \rightarrow N^*$  (co-compounds)

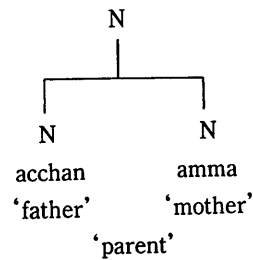
Taking Malayalam words he illustrated as follows :

(67).

a.



b.



The structural difference between (66a, 67a) and (66b, 67b) is that the former has the structure of head-subordinate and limit of one subordinate to single head, but the latter has the structure of two parallel heads and theoretically any number of possible heads.

## References

- Ahn, S.C. 1985. The interplay of phonology and morphology in Korean. PhD dissertation, University of Illinois.
- Heo, W. 1982. Kwuke umwunhak kayron (kaykosinphan) 'Korean phonology (revised)', Seoul : cengumsa.
- 1983. Kwukehak (Korean linguistics), Seoul : Saymmwunhwasa.
- Jones, D. 1917. English pronouncing dictionary, London : J.M. Dent & Sons Ltd.
- Kim, C.W. 1971. "Sowi pyenkyek yongenuy pipyenkyeksengey kwanhayey," (Regularity of the so-called irregular predicates) Hankwukene yenkwu (Korean language and literature) 8-9.
- Kim, Y.S. 1984. "On the treatment of consonant reduction," Language research 20.4. Seoul National University.
- Lee, B.G. 1981. "umwuntahlakuy hyetayronkwa umwunron," (The morphology and phonology of phoneme deletion), Hangul : Journal of Korean alphabet society 173/4, 223-246.
- Lee, H.S. 1972. Kwuke taysacen (Comprehensive Korean dictionary), Seoul : cengum mwunhwasa.
- 1976. Hangul macchwumpep thonilan kanguy (Lectures on the regularization of Korean alphabet), Seoul : Sinkwumwunhwasa.
- Lee, K.H. 1982. "Pokhap myengsaey isseseuy kyengumhwa hyensang," (Tensification in the compounding nouns), ene (Linguistic journal of Korean) 1 7.2.
- Mohanan, K.P. 1982. Lexical phonology. PhD. dissertation, University of Texas.